STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Pittsfield Aqueduct Company, Inc.

DW 10-090

DIRECT PREFILED TESTIMONY OF DONALD L. WARE

IN SUPPORT OF PERMANENT RATES

May 6, 2010

Professional and Educational Background

Q. What is your name and what is your position with the Pittsfield Aqueduct Company?

A. My name is Donald L. Ware. I am the President of Pittsfield Aqueduct Company ("PAC" or the "Company"). I have worked for the Company since Pennichuck Corporation ("Pennichuck") acquired it in April 1998. I am a licensed professional engineer in New Hampshire, Massachusetts and Maine.

Q. Please describe your educational background.

A. I have a Bachelor in Science degree in Civil Engineering from Bucknell University in Lewisburg, Pennsylvania and I completed all the required courses, with the exception of my thesis, for a Masters degree in Civil Engineering from the same institution. I have a Masters in Business Administration from the Whittemore Business School at the University of New Hampshire.

Q. Please describe your professional background.

A. Prior to joining Pennichuck Corporation, I served as the General Manager of the Augusta Water District in Augusta, Maine from 1986 to 1995. I served as the District's engineer between 1982 and 1986. Prior to my engagement with the District, I served as a design engineer for the State of Maine Department of Transportation for six months and before that as a design engineer for Buchart-Horn Consulting Engineers from 1979 to 1982.

Q. What are your responsibilities as President of the Company?

A. As President, I am responsible for the overall operations of the Company, including water quality and supply, distribution, engineering and water system capital improvements. I work closely with Pennichuck Water Works' Engineering Department and Chief Engineer (which provide services to the Company pursuant to a management allocation agreement) regarding project selection, design and construction management for capital improvements.

Q. What is the purpose of your testimony?

A. I will be providing details of the Company's operations and capital expenditures in regard to the water system located in the Pittsfield, New Hampshire (the "Pittsfield water system").

Q. Has the Company completed any significant improvements to the Pittsfield water system over the past two years (since the last rate case test year of 2007)?

A. Over the past two years the Company has performed maintenance capital work within the Pittsfield water system focused on its meter periodic testing program and on the operations of its water treatment plant. These costs include $16,209 to upgrade the turbidimeters at the water treatment plant, $845 to install a manual transfer switch at the water treatment plant and $3,629 to rebuild meters that were pulled and tested but did not meet the meter test requirements.

Q. Did the Company perform any water main replacement over the past two years?

A. No.

Q. Please explain. Your 2007 test year testimony talked about the need to replace or rehabilitate unlined cast iron water main that exists in the Pittsfield water system.

A. The Pittsfield water system still has 13,650 lineal feet of unlined cast iron water main that should be replaced or rehabilitated because it restricts fire flows and impacts water quality by releasing iron into the water during high flows resulting in colored water and by potentially allowing for bacterial regrowth. In order to keep the rate impact of replacing this water main to a minimum, the Company plans to replace this water main over a 20 to 25 year time frame. The Company has been faced with the difficult challenge of how to implement an appropriated scaled and long term replacement program without incurring significant rate case expense to recover its investment at the end of each project. The Commission's recent adoption of a Water Infrastructure and Conservation Adjustment Charge in DW 08-098 has created a mechanism that would work well for the implementation of the replacement program in Pittsfield.

Q. Has the Company identified a remedy to address the need to replace/rehabilitate unlined cast iron water main in the Pittsfield water system?

A. Yes. The Company believes that it would be appropriate to establish a Water Infrastructure and Conservation Adjustment (WICA) charge (similar to the

pilot WICA recently granted to Aquarion Water Company in DW 08-098) to allow for an ongoing replacement/rehabilitation program for its water systems aging infrastructure. A WICA would allow the Company to carry out a modest water main replacement/rehabilitation program and reduce the frequency of filing rate cases thereby reducing the costs passed through to its customers. It would also reduce regulatory lag that occurs between the installation of a water main (which is a non-revenue producing asset) and the capturing of that investment and the associated expenses (depreciation and property tax expenses) in rates. The Company has a number of concerns in creating a more timely return on its investment in water main replacement/rehabilitation projects in the Pittsfield water system. It would also obviate the need for repeated rate cases, the cost of which for a small water system such as Pittsfield will be almost as much as a typical one year water main replacement program.

Q. Has the Company developed a WICA plan for the Pittsfield aging infrastructure?

A. Yes. The plan is based on replacing water meters, water mains, water services and fire hydrants over time. The Company established its plan for water main replacement/rehabilitation by evaluating water main break history, the needs of key customers, water quality issues, coordination with the Town of Pittsfield paving program, and fire protection needs. Under the Company's proposal, it would replace/rehabilitate 13,650 LF of existing water main over a 20 year time frame with projects being completed every other year. The

project plan calls for every other year replacement in order to attract better project pricing based on more water main work and minimizing fixed project costs such as bonding, mobilization and demobilization that are the same regardless of project size.

Q. How would the Company prioritize projects under its proposed plan?

A. The Company will be prioritizing projects based on the proximity of the cast iron water main to the source of supply and working progressively out into the distribution system. This will create the most immediate impact from a water quality and fire protection stand point because these pipes are the most used within the system based on the amount of water that flows through them. Schedule DW-1 sets forth the locations and timing of the proposed water main replacements. If this plan is approved by the Commission, the Company would meet with the Town of Pittsfield to coordinate this replacement plan with the Town's street paving and rehabilitation plan. The timing and location of particular projects may be adjusted to match the Town's plans in order to minimize road reconstruction costs and impact on residents and businesses located along the selected project streets. The Company would provide the Commission with a final list of the priority and timing of the projects once it had met with Town officials.

Q. Why isn't the Company establishing the priority for main replacements based on break history?

A. The break history in the Pittsfield water system has been excellent with an average of slightly less than two water main breaks per year since the

Company acquired the Pittsfield Aqueduct Company in 1998 (exclusive of water main breaks on "stove pipe" water main which has all been replaced). The low break history, as well as historical excavation information, indicate that the soils in Pittsfield are not aggressive and that the geology is stable. As a result, water main breaks will not be the determining factor in assessing which mains to replace first.

Q. Does the WICA plan anticipate any service, hydrant or meter replacements?

A. Yes. Services and water meters will be replaced as needed. Services will be replaced main to stop as they fail or during a water main replacement project if the exposed service shows deterioration. Water meters will be pulled and tested on the NHPUC approved schedule and will be rebuilt or replaced as necessary. Hydrants will be evaluated during water main replacements regarding their condition and will be replaced as necessary.

Q. How does the Company plan to finance these improvements?

A. The Company believes that the best financing for water main replacement projects is Community Development Block Grant (CDBG) money. The Town of Pittsfield qualified for this type of funding in the past and the Company believes it could qualify for this type of financing for water main replacement projects in the future. This financing comes with low interest rates and up to a 50% grant. However, this type of financing requires the Town of Pittsfield to participate in the application for CDBG funding and when the Company approached the Town about partnering with Company, the Town chose not to

participate given the current eminent domain actions by the City of Nashua. The Company hopes that once the eminent domain proceedings have come to a conclusion that the Town will be receptive to filing a joint CDGB request. In the event that request is not possible or successful, the Company has other forms of capital available to complete the replacement/rehabilitation of unlined cast iron water main including the potential use of SRF funding.

Q. When would the Company begin the main replacement/rehabilitation program?

A. The Company would plan for the first water main/replacement project to occur in 2012 or 2013 and would involve the cleaning and relining of about 2,000 LF of the 12" unlined cast iron water main along Catamount Road that is closest the water treatment plant.

Q. What type of water rate increases is the Company requesting as part of the WICA plan for the Pittsfield Aqueduct Company?

A. Based on the rates projected to be in effect at the end of this rate case, the Company is seeking an annual limit on WICA rate increases between 5% and 7.5%. This would allow approximately 1200 to 1300 LF of water main to be replaced in any one year and an approximately 2000 LF of water main to be replaced before a rate case is required. Please see Schedule DW-2 for a calculation of the impact of WICA allowed projects as detailed above on the rate requirement for Pittsfield.

Q. Is the Company requesting any other rate relief in this case associated with capital improvements?

A. Yes, the Company needs to rehabilitate the Berry Pond Dam. The cost of the rehabilitation is reflected in the Company's request for a $183,000 step increase. Since acquiring the Berry Pond and Berry Brook Reservoir Dams in 1998, the Company has been addressing issues associated with the dams and pond, including widened tops of the dams, increased spillway capacities, armored sides of the pond, and raised heights of the dams to provide the required freeboard at the time. The New Hampshire Department of Environmental Services (NHDES) has been working with the Company since 2000 as the result of annual dam inspections to upgrade the dams to meet the State standards. In December 2008, the Company received a letter of deficiency from the NHDES listing "outstanding" items regarding improvements to the Berry Pond and Berry Brook Reservoir dams that needed to be addressed.

Q. What actions have the Company taken to address the letter of deficiency?

A. In 2009, the Company hired HL Turner Engineering Group to evaluate, design and specify the required upgrades to the dams. HL Turner estimates that the upgrades, including all engineering, to the Berry Pond Dam will cost approximately $183,000. The plan is to bid the required upgrades for the Berry Pond Dam in the late spring and perform the required dam upgrades during the late summer of 2010 when flows through Berry Pond are at their summer time lows. Thus, the Company projects that these improvements would be used and useful as of in the later fall of 2010.

Q. Is the Company conducting any assessment of the Berry Pond Reservoir?

A. Yes. At the Company's request, HL Turner is also performing an analysis of the Berry Brook Reservoir to assess whether the Company should repair/rebuild the dam or remove it. Specifically, the Company will be assessing whether the cost of repairing/rehabilitating and maintaining the Berry Brook dam in order to provide a back up supply in the event of a raw water main break is justified. The Company will evaluate the HL Turner study regarding Berry Brook Reservoir once it has been completed and make a decision to rebuild or remove the Berry Brook Reservoir dam in 2010 with the dam upgrade or removal occurring in 2011. The Dam study and the associated cost to repair or rehabilitate the Berry Brook Reservoir dam is not part of this rate case though the Company thought it would be important for the Commission to understand the need to address this in the near future.

Q. Does the Company foresee the need to make any improvements to the Pittsfield Water Treatment plant in the next five to ten years?

A. At this time, the Company is currently not aware of any changes in the Safe Drinking Water Act standards that could necessitate a further update or require an addition to the Pittsfield water treatment plant. The Company completed monitoring in 2009 for Cryptosporidium and did not find any present in Berry Pond and as such it appears that the Long Term 2 Enhanced Surface Water Treatment Rule will not require an upgrade of the Pittsfield Water Treatment plant. Additionally, location samples for disinfection

byproducts taken from the Pittsfield distribution system, as required by the Stage 2 Disinfection/Disinfection Byproducts Rule, appear to meet the standards and as such the Pittsfield Water Treatment plant disinfection process should not need to be altered to meet this standard. However, if these or other water standards change, or an unexpected event occurs, upgrades may become necessary.

Q. The Company's operating expenses, exclusive of property taxes and property insurance have risen significantly in the past three years. Please explain why this is the case and what the Company is doing to control these expenses?

A. The primary reason for the change in Company's operating expenses in 2009 when compared to the Company's 2007 operating expenses is driven by a change in wage rates for the two employees who complete the day to day work required to sustain the operations of Pittsfield water system. The wage rates for these employees have progressed from an Employee in Training with no operating license wage rate of $15.48 per hour in 2007 to fully trained and licensed operators who at the end of 2009 are, based on license, time and experience, at the highest union classification wage rate for their positions of $24.84 per hour. While their hourly rates have increased, I would note that the Company has proformed a reduction in expenses from the 2009 test year in the areas of production expense and transmission and distribution expense. These changes are attributable to the increased efficiency of the

staff given their increased level of experience and the increased allocation of their time to operate systems of affiliated entities.

Q. Does this complete your testimony?

A. Yes.

Pittsfield Aqueduct Company

Schedule DW-1

Unlined Cast Iron Water Main
WICA Replacement/Rehabilitation Plan

Replacement Plan Year(s)	Street Name		Size	Length	Planned Approach
2012/2013/2014	Catamount Road	-	12	2,085	Clean and line in 2013
2015/2016/2017	Catamount Road	-	10	1,718	Clean and line in 2016
2018	Clark Street	-	8	542	Replace
2018	Main Street	-	8	578	Replace
2019/2020/2021/2022	Catamount Road	-	8	2,507	Clean and line in 2020 and 2022
2023	Main Street	-	6	1,002	Replace
2024	Manchester Street	-	6	556	Replace
2024/2025/2026	Joy Street	-	6	2,095	Clean and line in 2026
2027/2028/2029	Concord Hill Road	-	6	1,700	Replace in 2028 and 2029
2029	Concord Hill Road	-	8	461	Replce in 2029
2030	Watson Street	-	4	406	Replace in 2030
	Total Unlined Cast Iron Water Main			**13,650**	**LF**
			Clean and Line -	8,405	LF
			Replace -	5,245	LF

Pittsfield Aqueduct Company								Schedule DW-2
WICA Calculation								
Data:								
Depreciation Rate on Water Mains -		1.57%						
2010 Pittsfield Mil Rate -	$	23.64	per $1,000					
2010 State Wide Utility Tax Mil Rate -	$	6.60	per $1,000					
Maximum Annual WICA adjustment -		5.00%						
2010 ROI -		0.076	as filed with Case					
2010 Tax Rate (Federal and State) -		0.6039						
Projected Revenues after "2010 step" -	$	760,691						
Maximum Increase per year allowed by WICA -	$	38,035						
Maximum Allowed WICA $$ per year -	$	221,403						
Projected Annual WICA Expenses*								
Annual Cleaning and Lining -	$	52,531						
Annual Water Main Replacement -	$	41,960						
Annual Meter Replacement -	$	1,178	based on	30	rebuilds per year @	$ 39.27	per rebuild	
Annual Service Replacement -	$	9,900	based on	5	services per year	$ 1,980.00	per replacement	
Total Estimated WICA projects per year -	**$**	**105,569**						
Projected Rate impact per year -	**$**	**18,136**						
Percent increase required -		**2.38%**	Based on projected 2010 Step rates					
*Based on replacing/rehabbing		683	of unlined CI or Steel watermain per year					
Cost Basis for WICA Pipe Replacement and Rehab:								
Replace/Reline -		13650	LF of unlined cast iron water main					
Time Frame for Completing the work -		20	years					
Mains Replaced/Rehabbed per year -		683	LF					
Estimated Percentage of Clean and Line -		62%						
Estimated Percentage of Replacement -		38%						
Estimated cost to clean and line -	$	125	per foot					
Estimated cost to repalce -	$	160	per foot					